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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,175	10/28/2003	Satoshi Ueda	Q78159	2735
23373	7590	09/27/2007	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			ZHENG, JACKY X	
			ART UNIT	PAPER NUMBER
			2625	
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			09/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/694,175	UEDA, SATOSHI
	Examiner	Art Unit
	Jacky X. Zheng	2625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on October 28, 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-10 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-10 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on October 28, 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date 6/12/2007 & 10/28/2003

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.
 5) Notice of Informal Patent Application
 6) Other: _____

DETAILED ACTION

1. This is the initial office action based on the application filed on October 28, 2003.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement (IDS) submitted on October 28, 2003 and June 12, 2007 were filed on and after the mailing date of the application on October 28, 2003. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 1 recites the limitations of “compute a requisite printing time for contents of a print set by the setting device from at least a type of image format of image data stored in the recording medium, a print size, and the number of printers” in lines 12-14 of instant claim. Such limitations have not been *explicitly* characterized by clear and concise claim languages to enable any person skilled in the art to which it pertains, to clearly determine the scope of such limitations. In details, it is unclear that computation of “a requisite printing time for contents of a print set” whether based on either one of three, any combination of three, or all, among the three parameters of “a type of image format of image data stored in the recording medium”, “a print size” and “the number of printers”. These issues also affect dependent claims 2-5.

In addition, identical issues are also found in independent claim 6, and also affect dependent claims 7-10. Further clarification is respectfully requested. For purpose of advancing the prosecution, interpretation of “either one of three” will be relied on for further analysis toward prior art rejection, at least until further clarification and emphasis being added.

8. Claims 1-3 and 6-8 recite the limitation of “contents of a print set”. Such a limitation has not been *explicitly* depicted with sufficient descriptions in the instant claim, for properly limiting or clearly defining the scope of “a print set”. It is unclear whether “a print set” is referring to a single print job, a collection of print jobs, etc. The scope of such a limitation is unclear since the disclosure have not provided with explicit definition for properly defining such a limitation.

Therefore, the scope of such a limitation is unable to be determined, which renders the claim scope indefinite. Further clarification is respectfully requested.

9. Claim 1 recites the limitation of "a print size" in line 14 of instant claim. Such a limitation has not been *explicitly* depicted with sufficient descriptions in the instant claim. It is unclear whether this limitation of "print size" is either referring to: physical print medium size, such as: paper size; or resolution size relating to print data; or simply the size of the print data. Further clarification is respectfully requested. These issues also affect dependent claims 2-5.

In addition, identical issues are also found in independent claim 6, in line 16 of instant claim, and this issue also affects dependent claims 7-10. Further clarification is respectfully requested.

10. Claim 1 recites the limitation "the number of printers" in line 14 of instant claim. There is insufficient antecedent basis for this limitation in the claim. In addition, identical issue also found in independent claim 6, in line 16 of instant claim.

11. Claim 3 recites the limitation of "types of print services" in line 3 of instant claim. Such a limitation has not been *explicitly* depicted with sufficient descriptions in the instant claim, for properly limiting or clearly defining the scope of "types of print services". The scope of such a limitation is unable to be determined, which renders the claim scope indefinite. Further clarification is respectfully requested.

In addition, identical issue is also found in Claim 8. Further clarification is also requested.

12. Claim 6 recites the limitation "the print size" in line 16 of instant claim. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

14. **Claims 1, 4-6 and 9-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-042451 (published on Feb. 16, 2001, hereinafter refer as “Fukushima et al.”), and further in views of JP 2001-018497 (published on Jan. 23, 2001, hereinafter refer as “Tanaka”) (*and alternatively over Letellier (U.S. Pub. No. 2004/0012797) and Ueda et al. (U.S. Patent No. 7,046,383)*).

15. **With regard to claim 1**, the claim is drawn to a digital printing apparatus, comprising: a data reading device which can read image data from plural types of recording media (*See Fukushima et al., i.e. Drawing 1, 31*); a setting device which sets at least one of the number of prints, types of prints, and a print size (*See Fukushima et al., i.e. Drawing 1, 32*); a display device which displays contents set by the setting device (*See Fukushima et al., i.e. Drawing 2, 3*); a printing image data generation device which generates printing image data based on the contents set by the setting device from the image data read by the data reading device (*See Fukushima et al., i.e. Drawing 1, 36*); at least one printer (*See Fukushima et al., i.e. Drawing 1, 33*); a transfer device which transfers to the printer the printing image data generated by the printing image data generation device (*See Fukushima et al., i.e. Drawing 1, 35; also see Paragraph [0006] for details*).

Fukushima et al. do not *explicitly* disclose the limitations of computing a requisite printing time for contents of a print set by the setting device from at least a type of image format of image data stored in the recording medium, a print size, and the number of printers and further displaying the requisite printing time computed on the display device.

However, Tanaka discloses that print processing time per sheet differs, depending (or based on) the paper size and image size (*See Tanaka, i.e. Paragraph [0029]*), further disclose the limitation of displaying the processing time (*See Tanaka, i.e. Paragraph [0029] and Drawing 9*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have modified Fukushima et al. to include the limitation of computing a requisite printing time for contents of a print set by the setting device from a print size and further displaying the requisite printing time computed on the display device taught by Tanaka. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified Fukushima et al. by the teachings of Tanaka to include the limitation of computing a requisite printing time for contents of a print set by the setting device from a print size and further displaying the requisite printing time computed on the display device taught by Tanaka to increase the accuracy of processing time calculation and presenting a clear status on a display to user with relating to the processing time.

16. Additionally, for purpose of advancing the prosecution (*even though the interpretation of the claim only requires computation of a requisite printing time based on one of three parameters*), the additional but not-required limitations are also discussed herein.

17. Fukushima et al. and Tanaka do not *explicitly* disclose the limitation of computing a requisite printing time based on “a type of image format of image data”.

However, Letellier discloses an invention relates to methods and apparatus facilitate reductions in time for processing and printing of the image data, particularly discloses “the processing time of preprocessed image page description by the image device is determined ... this determination can be based on such things as knowledge of *the actual or expected size of image page description, knowledge of the actual or expected number and type of image ...*” (See Letellier, i.e. Paragraph [0032], Claim 6).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Fukushima et al. and Tanaka to include the limitation of computing a requisite printing time based on “a type of image format of image data” taught by Letellier. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Fukushima et al. and Tanaka by the teachings of Letellier to include the limitation of computing a requisite printing time based on “a type of image format of image data” taught by Letellier, by “tracking how much work has been given to the imaging device to determine how much time the external preprocessing device has available” and “seek to keep both the preprocessing device and the imaging device *utilized to their reasonable capacity*” (See Letellier, i.e. Paragraph [0036]).

18. Fukushima et al., Tanaka and Letellier do not *explicitly* disclose the limitation of computing a requisite printing time based on “the number of printers”.

However, Ueda et al. discloses a printing system including a plurality of different kind of printers and a printer selecting device, further particularly disclose the limitation of “calculating mean, calculate for each printers, a print cost for a single printing and a printing time necessary for the printer to produce the number of printings...” and display the “additional information” on the display (*see Ueda et al., i.e. column 8, lines 19-26*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Fukushima et al., Tanaka and Letellier to include the limitation of computing a requisite printing time based on “the number of printers” taught by Ueda et al. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Fukushima et al., Tanaka and Letellier by the teachings of Letellier to include the limitation of computing a requisite printing time based on “the number of printers” taught by Ueda et al., so “the system including different kinds of printers allows the operator to select desired one of the printers and thereby makes the most of the advantage of the printer” (*See Ueda et al. i.e. column 1, lines 34-40*).

19. With regard to claim 4, Letellier discloses the limitations such as: “time spend on waiting for I/O”, “time spent rendering to allow the level of preprocessing to be updated”, “transmission time” and “print time” (*See Letellier, i.e. Paragraph [0031]*).
20. With regard to claim 9, the claim is drawn to a digital printing apparatus according to claim 6, comprising *substantial identical* limitations recited and discussed as in claim 4 (*The claim is rejected under the same ground for at least the reasons set forth above. See the detailed discussion of the claim 4 above*).

21. **With regard to claim 5**, Tanaka discloses “a system controller computes the residual time to the end of the printing, which subtract actual printing job time from the printing office important time computed...” and “display it on the predetermined region on a display” (*See Tanaka, i.e. Paragraph [0030]*).
22. **With regard to claim 10**, the claim is drawn to a digital printing apparatus according to claim 6, comprising *substantial identical* limitations recited and discussed as in claim 5 (*The claim is rejected under the same ground for at least the reasons set forth above. See the detailed discussion of the claim 5 above*).
23. **With regard to claim 6**, the claim is drawn to a digital printing apparatus, comprising *substantial identical* limitations recited and discussed as in claim 1, further requiring “a printer selection device which selects an available printer from among the plurality of printers”. Fukushima et al. disclose “a printer change mean” for choosing the printer used from two or more printers based on the information set up with the printer change mean (*See Fukushima et al. i.e. Paragraph [0006]*). Additionally, Ueda et al. also disclose “a printer selecting device” (*i.e. Figure 2, Part 21*), comprising “a selecting mean” (*Figure 2, Part 24*) for selecting the printers.
24. **Claims 2 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukushima et al., and Tanaka (*and alternatively Letellier and Ueda et al.*), and further in views of JP 2000-153659 (published on June 6, 2000, hereinafter refer as “Hara et al.”).

25. **With regard to claim 2**, the claim is drawn to the digital printing apparatus according to claim 1, wherein the computation device computes a requisite printing time for contents of a print set by the setting device further from types of recording media.

The teachings of Fukushima e al. and Tanaka (alternatively Letellier and Ueda et al.) do not *explicitly* disclose the limitation of computes a requisite printing time for contents of a print set by the setting device further from types of recording media.

However, Hara et al. disclose an invention relates to calculating and displaying of the reproduction or processing time, more particularly further disclose the teachings of taking into consideration the types of recording media (such as: CD, FD, Compact Flash SmartMedia, etc.) for computation of processing time (*See Hara et al., i.e. Paragraphs [0019] –[0026]*).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Fukushima e al. and Tanaka (alternatively Letellier and Ueda et al.) to include the limitation of computes a requisite printing time for contents of a print set by the setting device further from types of recording media taught by Hara et al. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Fukushima e al. and Tanaka (alternatively Letellier and Ueda et al.) by the teachings of Hara et al. to include the limitation of computes a requisite printing time for contents of a print set by the setting device further from types of recording media taught by Hara et al., for increasing the accuracy of the processing time calculation and estimation.

26. **With regard to claim 7**, the claim is drawn to a digital printing apparatus according to claim 6, comprising *substantial identical* limitations recited and discussed as in claim 2 (*The*

claim is rejected under the same ground for at least the reasons set forth above. See the detailed discussion of the claim 2 above).

27. **Claims 3 and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukushima et al., and Tanaka (and alternatively Letellier and Ueda et al.), and further in view of Simpson et al. (U.S. Pub. No. 2002/0135799).
28. **With regard to claim 2**, the claim is drawn to the digital printing apparatus according to claim 1, wherein the computation device computes a requisite printing time for contents of a print set by the setting device further from types of print services.

The teachings of Fukushima e al. and Tanaka (alternatively Letellier and Ueda et al.) do not *explicitly* disclose the limitation of computes a requisite printing time for contents of a print set by the setting device further from types of print service.

However, Simpson et al. disclose an invention relates to print job time estimation, more particularly further disclose the teachings of “type of print service”, such as “document length, color copies, two-sided printing, and the number of copies to be made are used to estimate the amount of time for print to complete the print job” (See Simpson et al. i.e. Paragraph [0133]).

Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Fukushima e al. and Tanaka (alternatively Letellier and Ueda et al.) to include the limitation of computes a requisite printing time for contents of a print set by the setting device further from types of print service taught by Simpson et al. It would have been obvious to one of ordinary skill in the art at the time of invention to have modified the teachings of Fukushima e al. and Tanaka (alternatively Letellier and Ueda et al.) by

the teachings of Simpson et al. to include the limitation of computes a requisite printing time for contents of a print set by the setting device further from types of print service taught by Simpson et al., for accurate calculation of the processing time and provide “feedback to the user from printer as to the amount of time printer to complete the print job...” (See Simpson et al., i.e. Paragraph [0135]).

29. With regard to claim 8, the claim is drawn to a digital printing apparatus according to claim 6, comprising *substantial identical* limitations recited and discussed as in claim 3 (*The claim is rejected under the same ground for at least the reasons set forth above. See the detailed discussion of the claim 3 above*)

Conclusion

30. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- A. Ushio et al. (U.S. Pub. No. 2003/0059223, Pat. No. 6,728,499) disclose an image forming apparatus with left (or remaining) time informing function and left time calculating method.
- B. Ushio et al. (U.S. Patent No. 6,728,499) disclose an image forming apparatus with left
- C. Gotoh et al. (U.S. Patent No. 6,709,176) disclose an invention relates to calculation of printing time and displaying in time scale.
- D. Inui et al. (U.S. Patent No. 5,809,371) disclose an image forming apparatus displaying job end time (i.e. Figure 10a, b).

- E. Ishiyama (U.S. Patent No. 6,186,682) discloses a printing system that can predict the time it will take to print a document using various formats and pick the optimum printing path.
- F. Mitani (U.S. Patent No. 6,124,943) discloses calculating rendering time, selected based on the type of intermediate data.
- G. Filion et al. (U.S. Patent No. 5,036,361) disclose a job requirements calculation and display.
- H. Yamamoto (U.S. Patent No. 6,636,324) discloses an image processing method and apparatus, particularly calculation of processing time.
- I. Osawa et al. (U.S. Patent No. 6,652,819) disclose an image processing apparatus and method, particularly “an analyzer” estimate the rendering time based on the number, type of the rendering commands stored in the intermediate memory.
- J. Shibaki et al. (U.S. Patent No. 5,960,234) disclose a time distance display apparatus for image forming apparatus.

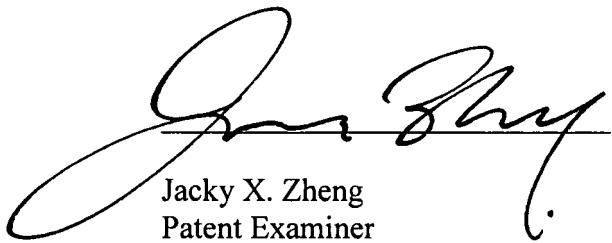
31. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacky X. Zheng whose telephone number is (571) 270-1122. The

examiner can *normally* be reached on Monday-Friday, 7:30 a.m.-5p.m., Alt. Friday Off.

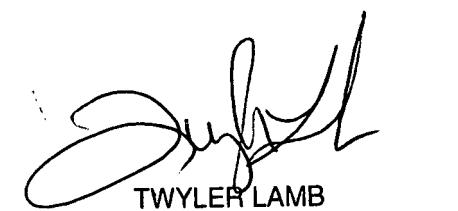
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler M. Lamb can be reached on (571) 272-7406. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jacky X. Zheng
Patent Examiner
Art Unit: 2625
September 6, 2007



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